

**Amendments to the Drawings:**

The attached sheet of drawings includes changes to FIG. 4. This sheet, which includes FIGS. 1-6, replaces the original sheet including FIGS. 1-6. In FIG. 4, reference numeral 22 has been added to show polishing as required by the Final Office Action.

## REMARKS/ARGUMENTS

The Examiner is thanked for the Office Action dated August 10, 2006 and the courtesies extended during the telephone conference on October 10, 2006.

The status of the application is as follows:

- The drawings are object to under 37 CFR 1.83(a).
- Claim 20 stands rejected under 35 U.S.C. 112, second paragraph.
- Claims 1-5, 7-12, 16 and 18-20 stand rejected under 35 U.S.C. 102(e) as being anticipated by Asai et al. (US 6,376,052).
- Claims 6 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al.

The rejections and amendments to the claims are discussed below.

### **Drawings Objections**

FIG. 4 stands objected to under 37 CFR 1.83(a) for not showing every feature of the invention specified in the claims. This objection should be withdrawn because FIG. 4 has been amended herein as required by the Final Office Action to show the removal of residue by polishing. In particular, reference numeral 22 has been added to FIG. 4 to indicate such polishing. As a consequence, the specification has also been amended herein to include the reference numeral 22. Accordingly, this objection should be withdrawn.

### **35 U.S.C. §112 Rejection**

Claim 20 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. This rejection should be withdrawn because claim 20 has been amended herein as discussed during the telephone conference of October 10, 2006.

### **35 U.S.C. §102(e) Rejection**

Claims 1-5, 7-12, 16 and 18-20 stand rejected under 35 U.S.C. 102(e) as being anticipated by Asai et al. (US 6,376,052). This rejection should be withdrawn because Asai et al. do not teach or suggest each and every aspect as set forth in the subject claims. MPEP §2131

(“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987)).

Independent **claim 1** recites a method of forming a core member for joining to at least one additional core member to form a composite including, *inter alia*, removing at least a portion of the surface of the conductive coating on at least one face to thereby allow a nub of the conductive material to extend above the surface of said substrate to thereby form a core that can be electrically joined face to face with another structure through said conductive material.

In the subject Final Office Action, it is asserted that Asai et al. teach such aspects. In particular, the Final Office Action references Figure 3b to teach this aspect. However, Figure 3b discloses forming a structure having two layers 6 and 7 formed over a filler 5. The two layers 6 and 7 are first formed over the filler 5 and the substrate 1 and then an etch resist is peeled off, resulting in the structure having two layers 6 and 7 formed over the filler 5. (See column 15, lines 14-40). Peeling the etching resist does not form a nub of conductive material that can be electrically joined face to face with another structure through the conductive material as recited in the subject claim since the filler 5 has already been covered with the two layers 6 and 7 prior to the peeling.

In view of the foregoing, Asai et al. do not teach or suggest each and every element as set forth in claim 1. Therefore, it is respectfully requested that this rejection be withdrawn.

Independent **claim 19** recites a method including, *inter alia*, joining first and second dielectric substrates by joining first and second nubs of conductive material. As noted above, Asai et al. do not teach or suggest forming a nub of conductive material that can be joined to another structure through the conductive material since the filler 5 is covered with the layers 6 and 7 as shown and described in connection with Figure 3b. Therefore, Asai et al. cannot teach or suggest joining two such nubs from different substrates to join the substrates together as recited in the subject claim. Thus, this rejection should be withdrawn.

Independent **claim 20** recites a method including, *inter alia*, thinning a coating of metal to form a protrusion of conductive material that protrudes beyond the substrate and the metal coat in connection with two substrates to form a first and a second core member and laminating the first and second core members together by bonding conductive material protrusions together.

As discussed above, Asai et al. do not teach or suggest forming a protrusion of conductive material that can be joined to another structure through the protrusion since the filler 5 is covered with the layers 6 and 7 as shown in Figure 3b. In addition, Figure 3b of Asai et al. teaches removing the entire portion of the unmasked layers 3, 6 and 7, and not thinning a coating to form the protrusions as recited in the subject claim. (See column 15, lines 14-40). Accordingly, this rejection should be withdrawn.

**Claims 2-5, 7-12, 16 and 18** depend from independent claim 1, and by virtue of this dependency, are allowable for the reasons discussed above with respect to claim 1. Therefore, the rejection of these claims should be withdrawn.

**35 U.S.C. §103(a) Rejection**

Claims 6 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al. **Claims 6 and 15** depend from claim 1 and, by virtue of this dependency, are allowable for at least the reasons discussed above in connection with claim 1. Thus, the rejection of these claims should be withdrawn.

In addition, **claim 6** recites that the epoxy is cured to between about 20% and about 80% of complete cure. In the Final Office Action, it is asserted that although Asai et al. do not teach such aspect, it would have been obvious to one of ordinary skill in the relevant art at the time of the invention to modify Asai et al. to teach this aspect “to optimize the percentage of curing to provide a viscosity that would facilitate the filling of the through-hole with the conductive material.” (See Final Office Action, page 6).

However, as provided in the application in paragraph [0016], such curing is subsequent to the filling of the holes with the epoxy and is a partial curing because the epoxy will be used to adhere to another conductive epoxy in another core element to join core elements together. Hence, the above-noted motivation suggested by the Final Office Action is inconsistent with the specification and does not support modifying Asai et al. to render applicants' claimed invention. See MPEP §2111 (pending claims must be given the broadest reasonable interpretation consistent with the specification).

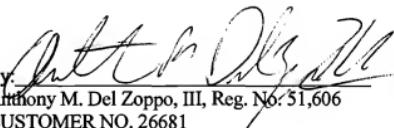
As noted in the response to the previous Office Action, Asai et al. do not provide any suggestion or motivation to be modified to teach the claimed invention and, thus, do not make

obvious the subject claim. MPEP §2143 (To establish a *prima facie* case of obviousness, there must be some suggestion or motivation to modify the reference and the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion must be found in the prior art, not in applicants' disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991)).

**Conclusion**

It is believed that each of the claims now in the application is distinguishable one from the other and over the prior art. Therefore, reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,

  
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AMD:cg